

REMARKS

In the Advisory Action, the Examiner agrees that the temperature range of between 75 and 1100° C is likely a typographical error. However, states that the application is not in a better condition for allowance because it is well settled that where the principal difference between a claimed process and that taught by reference is a temperature difference, it is incumbent upon the applicants to establish the criticality of the difference (Ex parte Khusid, 174 USPQ 59)

Applicants' claim 1 (currently amended) reads on two conditions that have been found to lower the formation of fines in the furnace. The preheating step must be limited to a temperature of from about 200° C to less than or equal to 500° C, and the heating step must be in a non-reducing atmosphere, such that substantially no reduction occurs. The specification supports that if either one of these conditions are not met, then certain grades of ore, and in particular Corumba lump ore, will decrepitate forming fines in the reduction furnace. Corumba lump ore is a very common iron ore. If the atmosphere is non-reducing, then fines are ~10%, and if the atmosphere is reducing, then fines can be as high as 40% in the blast furnace. Claim 1 reads on both of these limitations, and the specification covers this on page 5, lines 13–18. The Examiner's reference to Ex parte Khusid, 174 USPQ 59 is normally cited when the temperature range is open-ended (see MPEP 2173.05(c)). The temperature range of claim 1 is not open ended. The specification also teaches why fines are undesirable. Among the more troublesome problems caused by fines are that channeling occurs, and with channeling hot-spots are formed, therein producing fused pellets (i.e. clusters) and blockage, such that metallization is non-homogenous. As discussed in the response to Final Official Action, the cited range of 75° C -1100° C in Villarreal-Trevino et al. is a typographical error. The actual

range is 750° C -1100° C, and this temperature range is much higher than the claimed range of 200° C to less than or equal to 500° C. The higher temperature range would result in a much higher level of fines being formed, which as previously discussed, causes hot-spots, therein producing fused pellets or clusters and blockage, and metallization that is non-homogenous.

Claim 8 is currently amended to read on 200° C to less than or equal to 500° C, which removes any ambiguity that that the word about may have caused.

Claims 1-5 and 8 previously stood rejected under 35 U.S.C. 103(a) as being unpatentable over Villarreal-Trevino et al., U.S. Patent 6,395,056. The Examiner had cited the temperature range of 75° C to 1100° C (see col. 3, lines 36-36), which covers the range claimed in claim 1, which is “from about 200° C to about 500° C.” As the Applicants have overcome the basis for the rejection, the claims should now be allowable.

The Applicants have contended that the temperature range of 75° C to 1100° C (see col. 3, lines 36-36) is internally inconsistent with the rest of the patent, and that the actual range is 750° C to 1100° C, and that the lower temperature range of 75° C is a typographical error. Support for the contention can be found in col. 2, line 51, which teaches a range of 750° C to 1100° C. Claim 4 claims a pre-heating temperature range of 700° C to 800° C. Villarreal-Trevino et al. teach in col. 3, line 20, that the temperature of the particles exiting the pre-heating device is 700° C. Applicants assert that it is self evident that the particles could not attain this temperature if the pre-heating oven is only 75° C. Further support that the lower temperature range is actually 750° C, not 75° C, can be found in Villarreal-Trevino et al., Claims 1 and 2, wherein the temperature of the particles exiting the

pre-heating device is above 600° C. Applicants argue that the Claim 1 limitation of 200° C to about 500° C is well outside the range as taught by Villarreal-Trevino et al., and the rejections of Claims 1-5 and 8 are respectfully overcome.

Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Villarreal-Trevino et al. in view of Beggs et al., U.S. Patent 3,764,123. While Villarreal-Trevino et al. do not specially teach a means for heating the reformer by the combustion gas, this feature is conventional as evidenced by Beggs et al. The Examiner's position is that heating the reformer (38), which catalytically converts spent off-gases to reform gases, is functionally equivalent to heating equivalent to using the spent reform gases to provide heat in the pre-drying device.

Applicants have canceled claim 6.

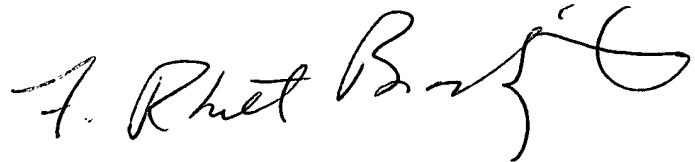
Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Villarreal-Trevino et al. in view of Beggs et al., and further in view of Becaerra-Novos et al., U.S. Patent 5,445,363.

Applicants have canceled claim 7.

Since the amendment to the claims does not add more claims than previously paid for, no additional fee is required, except for the fee for 3-month extension of time. A Petition and payment for a 3-month extension of time is enclosed.

In view of the foregoing amendment and these remarks, this Application is now believed to be in condition for allowance and such favorable action is respectfully requested on behalf of Applicants.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "F. Rhett Brockington". The signature is fluid and cursive, with a large, stylized "F" and a long, sweeping underline.

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